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## **1. Introduction**

Inequalities that exist in the digital sphere are certainly entangled with inequalities present in the “social sphere”. The aim of this chapter is to sketch a concept of stratification and inequalities in the digital sphere, the goal of which is to clarify whether the digital divide simply extends traditional forms of inequality, or whether it also includes new forms, which might include counter-trends that alleviate traditional inequalities and/or which form new modalities of inequality.

The discussion will proceed from a theoretical perspective using Max Weber’s theory of stratification, in order to clarify how social stratification in the digital age is reproduced online. The main idea is that inequalities in the digital sphere are based on features that, just as in the social sphere, go beyond the economic aspects of inequality. Indeed, what we argue

is that to understand digital inequalities, the discussion should not focus on class dynamics (economic aspects), but also status/prestige (cultural aspects), and group affiliations (political aspects). As in “real life,” social stratification in the digital sphere is the result of this complex interplay of three factors. Indeed, as relevant to inequalities the material and ideological realms traditionally studied in 19<sup>th</sup> and 20<sup>th</sup> Century sociology, Weber’s insights provide an opportunity to revise Marxist conceptions of class that give primacy to structured economic inequalities (i.e., class dynamics). While the relevance of class cannot be denied, a nuanced approach to stratification might also include aspects of social stratification in the digital sphere which relate to differential rewards experienced by groups and individuals in such areas as market influence, political power, and social status/prestige.

This complexity is precisely why we adapt Weber’s perspectives on stratification to contemporary dynamics observed in digital spheres. With this idea in mind, we explore from a theoretical point of view, the social inequalities in the age of the Internet, focusing beyond the economic role of social class, to encompass two broader dynamics of stratification described by Max Weber: i.e., “status” and “party”. Thus, we assume that the basic principles of social stratification should be sought not only in the economic sphere, but also in the spheres of pol culture and politics. Our aim is thus threefold: 1) to initiate a scholarly discussion of the importance of status and group affiliation in a postmodern society specifically in relation to digital inequalities; 2) to explore the importance of prestige in digital participation/exclusion.; and, 3) to explore the influence of group affiliation (Weber’s notion of “party” or political power) on digital participation/exclusion. These key distinctions Weber identified about inequality continue to be relevant in a digital age, although this perspective has thus far remained under-developed.

## **2. Social stratification and social inequalities**

Social inequalities are usually described as the unequal distribution of opportunities, rewards, goods, wealth, education, healthcare, and punishments for different socially-defined categories of persons within a group or society. Each society exhibits inequalities among individuals and groups, and as these are the sedimentation of social history, they give rise to social strata in the practice of social relations, notably regarding access to social rewards such as money, prestige and power. Social inequality in preliterate societies, characterized by a low division of labour and mainly unstructured, was much lower than in today's complex societies. Sociology, more than any other discipline, has attempted to explain the origin of such inequalities. Among the various approaches we can mention here, the three that have dominated the debate among sociologists, and which have influenced the debate beyond the discipline, are the classical statements (and subsequent scholarly traditions) of Emile Durkheim, Karl Marx and Max Weber. The idea is to apply these approaches in order to understand and explain the inequalities in the age of the Internet. The goal is to identify digital stratification and digital inequalities and read it through these theoretical lenses.

Durkheim explained inequalities in terms of their “functionality” for the larger social system (Durkheim 1933), based on the different function necessarily carried out by individuals in a variety of social circumstances. Presumably, more skilled citizens were to carry out the more complex function and this would give rise to different social strata. In the functionalist view, social stratification is necessary for the development of different skills, talents, training and capacities, with each role being rewarded differently. This differentiation among individuals and groups then gives rise to the division of labour without which social order (i.e., society) could not persist (Durkheim 1933: 379). In the Durkheimian perspective, society requires

inequalities, some of which are legitimate and some of which are not, depending on how it is interpreted within its relevant social context.

Karl Marx, on the other hand, mainly focuses on the class to describe and explain the social stratification and social inequalities. Briefly, according to Marx, the class of an individual is determined by elements of a structural nature (Marx 1974). Specifically, as defined in *The Communist Manifesto* ([1974] 1848), in capitalist society is the possession of the means of production the key variable to determine the membership of the class. The whole social superstructure is based on the economic dimension or structure. However, the binary division, based upon the control over the means of production, between bourgeoisie (capitalist class) and proletariat (working class) have been extensively criticized and considerate outdated in the post-industrial society (Bell 1974). As society has evolved, it is evident that also social class has evolved. However, it could be argued that possession of the means of production, even in a postmodern society (Lyotard 1979), is important to define social class. Moreover, it could be argued that this perception of social class is reproduced in the digital sphere and social class influence the access, the skills and the use of the Internet. However, while the economic factors are extremely important in understanding the social structure, Marx seems to overestimate this element excluding other components of social inequalities, such as prestige and power.

Finally, according to Weber, the complex interplay of these elements (status and party), in addition to the economic aspects, form the social stratification. Thus, from a Weberian perspective, social stratification could be described as the relatively stable organization of society into groups with different ways of enjoying the opportunities and rewards offered by the society. The Weberian approach to social stratification seems to offer a better

understating of social inequalities. This is why we will mostly focus on this approach to evaluate, discuss and understand digital inequalities. However, all these three approaches have been formulated long time before the advent of the new ICTs. It is important, at this point, to explain how social inequalities are produced or reproduced in a digitally-organized society.

Each of the classical sociological traditions of social stratification offers insight into digital inequalities, however in the following section we will clarify the contributions and weaknesses of the Durkheimian and Marxist traditions, and ultimately will argue for a new Weberian discussion. Given its relatively nuanced conceptualization and multiple dimensions (i.e., class, status, and politics), a Weberian approach to stratification allows not only for a “thick description” of the mechanisms of social inequalities in the digital sphere, it also suggests potential to answer a troubling question that has thus far remained unanswered in the digital divide field. That is, it is unclear whether these traditional forms of inequality simply replicate themselves in the digital sphere, or whether the digital divide operates under its own dynamics. The question remains: do social inequalities in traditional (so-called “real life”) dimensions of economic, status, and political relations simply replicate themselves (or extend intact) into the digital sphere? Or, does the digital sphere bring with it new modalities of inequality, and therefore new potentialities as well as challenges? Since more aspects of social life are migrating and expanding on-line, systems of structured inequalities are now reproduced in the digital sphere, the question becomes how social inequalities and social stratification are replicated in the digital sphere. The idea of this chapter is to start a scholarly debate whose goal is to explain digital inequalities in relation to dynamics social class

(lifestyle and market influence), social status (prestige and culture), or power (political impact or authority).

### **3. Reading digital divides**

In order to attempt to answer this crucial question, we need to introduce the so-called digital divide, a phenomenon since always at the centre of Internet studies (Bonfadelli, 2002; Katz & Rice, 2002; Mossberger, Tolbert, & Stansbury, 2003; van Dijk, 2005; Warschauer, 2004; World Internet Project, 2012), and inevitably tied with the concept of social inequalities. The digital divide has been studied since the mid 1990's from different perspectives and approaches. The idea of inequalities in access to- and use of new ICTs (and in particular the Internet) across different population segments and countries has been at the centre of many studies in the last decades (National Telecommunications and Information Administration, 1995; DiMaggio, Hargittai, Russell Neuman, & Robinson, 2001; Norris, 2001; Ragnedda & Muschert, 2013; Witte & Mannon, 2010). Because of the centrality of the Internet, researchers have focused on the gaps in adoption and use of the new ICTs. Castells, for instance, argues that “the differentiation between Internet-haves and have-nots adds a fundamental cleavage to existing sources of inequality and social exclusion in a complex interaction that appears to increase the gap between the promise of the information age and its bleak reality for many people around the world” (2001: 247). So, in its basic terms, the digital divide describes inequalities in the access to the ICTs. However, the access to the ICTs is not the “only divide” among users and citizens, and it is not the only divide that creates social and digital inequalities. This is why the analysis proposed by Castells, in some ways still valid, has been reformulated and addressed, over the time, in different ways (Sparks 2013; van Dijk 2006). Indeed, the literature goes beyond this simple and binary

divide between Internet-haves and have-nots, including others divides that exacerbate digital inequalities and digital exclusion. Van Dijk, (2005) and van Deursen & van Dijk, (2013), for instance, focus on numerous divides including ICT-skills, physical, motivational and use purpose. These divides should be seen in addition to the “simple” access (or lack thereof) to the new technologies of communication, as the first study of the digital divide made by the US Department of Commerce’s National Telecommunications and Information Administration (NTIA) in July 1995 have made. This misleading binary idea (Warschauer 2003) has been progressively dismissed and further integrated with several sociological patterns that include economic, social, geographical, gender, education and prestige divides, connecting the phenomenon of social inequalities to the new digital inequalities (DiMaggio et al., 2004; Sparks, 2013).

The initial technocratic approach to the digital divide as social and cultural phenomenon that underlines inequality in providing access to technology is outdated in an era characterized by a massive use (at least in the industrialized societies) of the Internet (Tondeur, Sinnaeve, van Houtte, & van Braak, 2011). It sounds more pertinent analyses the digital divides in relation to the different ways in which ICTs are used (Hargittai & Hsieh, 2010), and in relation to the ICT experiences and the capacities in using technologies among citizens with different socioeconomic backgrounds (Hargittai, 2002, 2010; van Deursen and van Dijk, 2009). So, while the gap in access to the Internet has steadily declined in the course of last decades, noteworthy differences persist in terms of Internet usage and differential skills (Brandtzæg, 2010; Chen and Wellman, 2005; Hargittai and Hinnant, 2008; Selwyn, 2004; Van Dijk, 2005; Zillien and Hargittai, 2009).



Indeed, there are differences in connection speeds, and where one accesses the Internet, such that a person with reliable broadband who access the web at work, home, and on a mobile device would presumably be in a better position than one accessing the web via dial-up with limited access. Similarly, a person with great skill in navigating the web would be at comparative advantage in accessing information, as would a person with greater resources of time to spend on-line. Thus, the digital divide may be measured in a variety of ways, and along a continuum including the following aspects: access vs. non-access; number of sites of access; varying skill at using digital tools; the amount of time spent on-line; the variety of activities accomplished on-line; the motivation is using the Internet; and how frequently a person goes on-line. All these factors inevitably create digital inequalities in the digital sphere. All these factors influence the way in which citizens engage with ICTs (Helsper, 2012; van Dijk, 2005; Warschauer, 2004) and, at the same time, are influenced by the unequal access to socioeconomic, cultural, and personal resources.

At this point, we apply the three previous theoretical approaches in analysing the social stratification to the digital age. We start with the functionalist approach “to read” digital stratification. According to this approach we might find that the digital divide is mainly based on the digital skills and, more importantly, that such digital divide and digital inequalities may be useful and functional to the rise of new talents and capacities, differently rewarded. These different skills and different remunerations create a new digital stratification that may encourage and thrive on inequalities in the age of the Internet. However, are the skills required in social life different than the skills required online, or are they equivalent extensions of such? That is, would an exploration of digital skills reveal that the Internet and other digital spheres are structured similarly as offline society, and so therefore reproduce the inequalities based on different skills and rewards? As we have seen, many scholars argue that

digital skills are important in understanding and analysing the digital divide. What is unclear is whether these digital skills are directly tied with the offline skills, or if they are something different and disconnected. In the first case, indeed, the digital inequalities could be seen as the reproduction, in digital space, of the inequalities pre-existing in the society. In the second case, however, digital inequalities have their own dynamics not necessarily connected with the social world. The difference is worth noting. In the first case, new ICTs are reproducing and reinforcing social inequalities, solidifying the social structure based on the division of labour. In the second case, digital inequalities are created by the new digital skills created by new digital technologies. Because digital skills seem tied with social structures and since the Internet requires a form of digital stratification based on different skills/talents, we may assume, at least in part, that digital inequalities are reproducing and reinforcing previously inequalities. However, a functionalist approach to social inequalities may underestimate other social patterns that influence the rise of strata, such as social status and inherited positions. That is why, even underlying its theoretical and useful insights, we will not use this theoretical approach.

Neither will we use the Marxist approach, because it mainly focuses, as we have seen, on the economic structures and class conflicts. A Marxist approach underlines the formation of dominant groups in the digital sphere and, above all, shows the capital accumulation dynamics that reproduce social inequalities in the digital world (Fuchs, Mosco, 2012). According to Graham we are living in a digital dark ages in which the knowledge economy is seen as alienation (2001). The digital sphere tends to reproduce the relation of power that characterizes social inequalities in the real life. While Marx's concept of class highlights the existence of objectively structured economic inequalities in society, we assume that the basic

principles of social stratification should be sought not only in the economic sphere, but also in the spheres of politics and culture.

Weber revises Marx's analysis arguing that social stratification relates to the access of different groups and individuals in social rewards such as money, power and prestige. This seems to be particularly true in the digital sphere. We are assuming that while the economic sphere is still important and valid to analyses the new inequalities, it sounds more pertinent and insightful to analyses such inequalities from a broader perspective. Weber's potential contribution to digital divide and in digital inequalities studies is on two planes: First, Weber argues that there are a variety of economic factors relevant to the formation of class relations. In addition to the access (or lack thereof) to the means of production, skills and credentials (or qualifications) can be dominant features of many professions. Those with access to and control over such qualifications enjoy a "market situation" more advantageous than those without such control. The Weberian approach provides a richer understanding of inclusion and exclusion that goes beyond a narrower class-based analysis.

#### **4. From social inequalities to digital inequalities**

As we have seen above, social inequalities present in the social structures are not presumably disconnected with the digital inequalities presents in the digital sphere. Digital inequalities are, indeed, embedded in social structures (van Dijk 2005; Helsper 2012), and thus digital and social inequalities must be deeply intertwined. Bonfadelli (2002), for instance, argues that previous social inequalities not only affect digital divides but reinforce and exacerbate pre-existing social inequalities. Furthermore, several patterns which characterize and shape the social structure such as education, skills, income, occupation and gender influence the

access and the use of the Internet (Rice & Katz, 2003; van Deursen & van Dijk, 2013). Analysed from this perspective it seems that social inequalities already existing in the society are reproduced and reinforced online. However, we argue that there exists a kind of recurring cycle between social and digital inequalities. Namely, social inequalities are the root of digital inequalities, seen as the different skills at using information sources and opportunities that are the major cause of digital divide (Selwyn, 2004; Hargittai and Hinnant, 2008; Smith and Curtain 1997); however, at the same time digital divides increase and reinforce social inequalities already present in a stratified social sphere.

However, so far, it is not clear if the digital divide influence social stratification or, reflexively, social stratification influences the development of the digital divide, and if the digital divide are reproducing or limiting of social inequalities.

To better explain this point we draw upon two well-known theories: “the Matthew effect” and the “theory of knowledge gap”, both of which, when applied to the digital age, argue that digital technologies are increasing the divide and the social inequalities, instead of limiting the gap. Briefly, the “Matthew effect,” first introduced by sociologist Robert K. Merton almost a half century ago (1968), argue that “the rich get richer and the poor get poorer,” though in his particular exploration this referred to the world of scientific inquiry. Merton applied a verse taken from the Gospel of Matthew: “For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken even that which he hath” (Matthew 25, 29). Merton’s idea was that well known scientists usually get more recognition than anonymous researchers, even if their research and findings are rather similar. If we applied this concept to the digital divide (Hargittai, 2003; Helsper, 2012; Pearson, 2009; van Dijk, 2005) we can see that pre-existing inequalities are amplified in the digital

sphere. The rich, in terms of skills, income, and abilities get more advantages from the Internet than those poorly skilled users (DiMaggio, Hargittai, Celeste, & Shafer, 2004). Thus, following this vein we can argue that social inequalities are not only replicated, but also amplified on the digital sphere.

Delving yet deeper in this vein, the knowledge gap hypothesis, first theorized by Tichenor, Donohue, & Olien (1970), before the advent of the Internet, argued that information and knowledge are not equally distributed in society. Briefly, the main assumption of this theory is that “as the infusion of mass media information into a social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these two segments tend to increase rather than decrease”. In other words socio-economic status influences the way in which we acquire information and knowledge and thus the gap, in terms of knowledge, between high socio-economic status and lower status will increase. This, despite the fact that both statuses will improve in knowledge because of the further information acquired. Some researchers (Bonfadelli, 2002; Rogers, 2003; Selwyn, 2004; van Dijk, 2005) applied this suggestive hypothesis to the digital divide, arguing that while both statuses will benefit from rich opportunities offered by new ICTs, those individuals and groups of highest status will gain more and sooner, thereby widening the pre-existing gap. In accessing and using resources offered by the Internet, those with a high socioeconomic status will get first and more efficient access to the opportunities offered by the ICTs. Consequently, it could be argued that the Internet has indeed exacerbated existing inequalities, rather than decreasing them.

The gap between “information rich” and “information poor” or between ‘users’ and ‘losers’ (Eichmann, 2000) has been widened further by the new media and, more importantly, seems to reflect the ongoing inequalities in the social sphere.

However, it must be said that digital inequalities may evolve over the time and some inequalities could be reduced or deleted. As van Dijk and Hacker (2003) argue, it would be in error to think about the digital divide as a static phenomenon, as inequalities are continually moving. The advent and adoption of new ICTs create new opportunities for social mobility, a process through which changes in the level of prestige of the subject can be realized. Indeed almost everybody who has access to the Internet may use it to improve their status and prestige. The Internet, for instance, may enhance individual social capital by offering new opportunities (Kraut et al. 2002; Zhao 2006). However, according to several studies, the digital divide may also increase the inequalities in social capital (Quan-Haase and Wellman 2004, Katz and Rice 2003; Hargittai 2002). This complex interplay of social capital and the Internet usage, has been at the centre of several studies (Agarwal, Animesh and Prasad 2005; Goldfarb 2006; DiMaggio et al. 2004). However, other studies (e.g. Haythornthwaite & Wellman, 2002; Witte & Mannon, 2010) have shown that different indicators of economic well-being influence the use of the Internet. Again, it seems that previous and stratified inequalities influence the use of the Internet and, in so doing, influence digital inequalities. Moreover, not only do those in advantageous economic situations use digital resources more and more effectively, but it is also the case that citizens whose occupational position is more “prestigious” demonstrate a similar dynamic.

The difference in usage of the Internet may notably influence life chances, a concept used by Weber to indicate the chances that individuals have of gaining access to scarce and valued

outcomes (1978, p. 302). The concept was further elaborated by Giddens, who explained it as “the chances an individual has for sharing in the socially created economic or cultural ‘goods’ that typically exist in any given society” (1973, p. 130-1). New digital technologies offer new opportunities to improve people’s social lives and, in so doing, can affect social and digital inequalities. The Internet’s potentiality to transform lives remains crucial and access could open the doors to important societal resources, such as education, healthcare, social services, etc., thereby improving quality of life.

How does access and effective use of digital technology influence access to opportunities in “real” life? Weber argued that it is the market which regulates the life chances enjoyed by individuals, and in turn we argue that in a society increasingly organised via digital networks, life chances are still determined within the market, but that this process is heavily influenced by the digital skills, authentications, and social capital resources. As Weber moved beyond Marx’s binary distinction between property owners and non-owners to focus also on prestige and skills, in an analysis of stratification in digital society we should move beyond the distinction the Internet have’s and have-not’s, by developing social theory of digital inequalities integrated within the social structures of inequality. As Weber, skills and assets only have value in the context of a market; hence, digital skills as well have value in the context of market of life chances (both digital and “real life”). Several studies have shown how specific online activities may offer users more opportunities to enhance their life chances (e.g. Hargittai and Hinnant, 2008; Kim and Kim, 2001; Mossberger et al., 2003; Van Dijk, 2005; Zillien and Hargittai, 2009). Interestingly enough, several studies have shown, that the use of new ICTs for “capital enhancing” activities are influenced by skills (Hargittai, 2010; Livingstone and Helsper, 2010; Stern, et al., 2009; Zillien and Hargittai, 2009).

## 5. Conclusion

The Weberian approach allows for a more finely-graded set of distinctions in how social (and digital) inequalities exist and interact. Beyond the simple binary conceptions of access vs. no-access or high skill vs. poor skill, the inclusion of Weberian concepts allows for a more complex picture of how the digital divide co-exists and interacts with social inequalities. This relatively “thick description” allows us to see that it is not only economics which drive digital divides, but that there is also a high level of relevancy to dynamics of status, prestige, certifications/professional legitimacies, and political influence. In addition, the concept of life chances (a combination of potentialities and hindrances) playing out in the marketplace of social life is also very useful.

As more activities of social life move and/or expand into the digital world, we expect the influence of the digital divide to have an increasing effect on social inequalities, both within the digital sphere but also beyond. While new technologies, theoretically speaking, may provide opportunities for everybody to improve their life chances (and subsequently to overcome hindrances to life chances), it seems that this possibility is not in fact equally realized. Indeed, it is mainly those individuals and groups who enjoy better social positions, typically along with better digital skills, and with a better social capital and social networks, who are most likely to exploit the potentialities offered by digital new technologies. In so doing social inequalities are reproduced (or exacerbated) by the advent of digital skills, even if, for some, the possibility to overcome such inequalities potentially emerges.



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